Abstract of the ~~Invention~~ Disclosure

N,N'-bis-(pyridoxal-5-phosphate)-alkylenediamine-N,N'-diacetic acids, N,N'-bis-(pyridoxal-5-phosphate)-1,2-cycloalkylenediamine-N,N'-diacetic acids, and N,N'-bis-(pyridoxal-5-phosphate)-1,2-arylenediamine-N,N'-diacetic acids, the corresponding monophosphate compounds and monoacetic acid compounds, and their salts and esters form stable, highly soluble chelates with paramagnetic metal ions, and are highly effective NMRI contrast agents. Preferred contrast agents are paramagnetic ion chelates of N,N'-bis-(pyridoxal-5-phosphate)ethylenediamine-N,N'-diacetic acid, N,N'-bis-(pyridoxal-5-phosphate)trans-1,2-cyclohexylenediamine-N,N'-diacetic acid, N,N'-bis-(pyridoxal-5-phosphate)trans-1,2-arylenediamine-N,N'-diacetic acid, and the soluble calcium salts thereof.

Novel intermediates for forming these compounds are N,N'-bis(pyridoxal-5-phosphate)alkylenediimines, N,N'-bis(pyridoxal-5-phosphate)alkylenediamines, N,N'-bis(pyridoxal-5-phosphate)-1,2-cycloalkylenediimines, N,N'-bis(pyridoxal-5-phosphate)-1,2-cycloalkylenediamines, N,N'-bis(pyridoxal-5-phosphate)-1,2-arylenediamines, and the corresponding monophosphate compounds.

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